ADAPT PTP Functional Medicine Q&A with Tracey O'Shea

Tuesday, September 7, 2021

1. I'm wondering how we start to determine which tests we're using. For example, I'm up to lesson six and so far have covered Cyrex and stool testing. But how do you determine which test to begin with? [4:50]
2. In customizing Paleo, Chris makes reference to quantities of carbs for men and women. I'm wondering is that the measurement [of] the serving of food or the specific carbohydrate calculation? [7:09]
3. [Do you] recommend [a] brand for high-quality cod liver oil? [25:29]
4. For [small intestinal bacterial overgrowth] (SIBO) testing, what [do you] look for in finding your resource? I'm in Australia and not sure who's providing the best testing. What should I look for or ask? [26:33]
5. What cod liver [oil] dosage are you recommending for maintenance, and at that dosage, how much vitamin D and A do you think a person is receiving from that dosage? [29:49]
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9. Do you ever use liquid chlorophyll for skin improvements in general? The thought would be to help detoxify the system. [56:15]
10. At the end of our coursework, are we able to download clinician and patient handouts indefinitely or just for six months? How long do we have the lessons to review? And after we are done, what support info do we have? [58:33]

Tracey O'Shea: Hello, everybody. Welcome. I hope everyone had a great holiday weekend. I hope it was a holiday for you. If not, then welcome back to your normal Tuesday work week. I think there's a couple [of] people in the room today. Please feel free to put [in] some Q&As; I didn't have any pre-submitted questions that I saw in our spreadsheet that we keep from submitted questions that are given to us throughout the week. So I don't have any that are planned as of right now. If you have questions, whatever it might be on curriculum, case studies, I'm here to answer them. I know it's kind of a bummer when we don't have any questions, specifically go over. But the goal here is to make sure that we provide this time for you to answer those questions if you do have them. So I'll give you a couple of minutes, whoever is in here participating. If you have some questions for us or for me, please go ahead and submit [them].

I will give you some updates. I think lesson three and lesson six have already been updated as far as the preferred lab testing for stool testing and some of the interpretive data that we're using in the clinic. Lesson seven for SIBO testing is almost ready. I think they're just completing it. I think it's going to be uploaded by the 10th, [but] don't hold me to it. But I think [it will be] next week. And that will be updating the SIBO parameters, interpreting, talking about the trio-smart breath test that has hydrogen sulfide testing, looking at the IBS-smart test for post-infectious [irritable bowel syndrome] (IBS) or post-infectious SIBO, [and] how to interpret those labs. So and then new case studies and just a bunch of other resources. We've updated everything for SIBO.

And then I am also working on lesson 10, which is updated SIBO treatments. That is probably the biggest overhaul and the biggest update yet, so it's taking me some time to get through it and make sure that we're comprehensive and that you have all the information that you need. So those are the things that are on the horizon that are starting to happen. And you will have access to them, I think, until the first six months after you graduate. So yeah, [I] just want to let you know what I'm working on, on my end. And we'll give everyone a little bit more time here. I don't know if anyone has any particular questions. But I will give you a second here. If you don't, no problem. We'll just end the Q&A a little early. I appreciate everyone showing up, though.

I want to remind everyone, too, that you're able to use this time also for case studies. So if you have a patient case or a particular situation or question, it's also a great opportunity to submit that question. We've also added an attachment to the question submission form or area so that you can upload attachments if you want, mostly lab results. As long as you de-identify the information, then we can share them when we're talking about this so that you can actually see them as we're rolling through the lab results in the context of discussing a case. So that is also something that has shifted and changed. And then we also have an area where you can submit your questions to Chris and you can submit your questions to me specifically. Or if you don't care who answers them, and you just want them answered at the next available session, we've added that option so that you can get them answered as quickly as possible.

Someone asked, "I'm wondering how we start to determine which tests we're using. For example, I'm up to lesson six and so far have covered Cyrex and stool testing. But how do you determine which test to begin with?"

Hi Millie. I want to make sure that I [understand] your question, so feel free to clarify. But I think you're just asking where do I start in general, like when I'm seeing a patient. I don't know if you're talking about just with gut testing in particular, but I can give you an idea of my approach. And okay, so both.

I would say, if someone comes to me as a new patient, it will obviously depend on what symptoms they have and their history. Some people come by the time they've gotten to Chris or myself, [and] they've had lots of tests already done; they've already seen lots of

practitioners. So maybe they just have had a ton of stuff that's already been done. And at that point, it's a little bit of a different approach. But I think if someone's coming to me that hasn't had a lot of labs done, this is their initial approach or first time into Functional Medicine, then I'm usually doing the blood work. So the comprehensive blood work, that whole case review panel that you are going through now. I'll order the whole thing. So thyroid, nutrients, cholesterol, inflammatory markers, [comprehensive metabolic panel], CBC, so an entire panel. And then I will also always order a stool test. Right now, I'm ordering the GI Effects comprehensive panel and a SIBO breath test. I would say that those are probably at least the three foundational labs that I order for just about everyone.

If someone has zero gut symptoms, which is fairly rare, I would say maybe 10 percent of the people I see have no gut problems at all, I may skip the SIBO test and just do the GI Effects stool test. Because I think, we still know you don't have to be terribly symptomatic in order to have gut imbalances and inflammation and other issues that could be leading to bigger problems. So I still generally at least do a stool test, no matter what. But if the person is really, really trying to save money, I might skip the stool test. And depending on what the other issues are, maybe just move on to level two testing.

I would always start with the blood test, a stool test, and a SIBO breath test, and more often than not, there's some sort of gut component. Even if it's not their primary complaint, there's something as you start to talk to them. There's some sort of component there. So that's normally what I will start with. As you work through lesson seven, which has the IBS-smart test, these are when I start to add things on. For instance, if someone has had chronic IBS with diarrhea, the SIBO test comes back positive, they've had other treatments before that haven't worked, they have a history of traveling, post-infectious issues, they had food poisoning, whatever it might be, [and] if the boxes are all being checked, then I'll add an IBS-smart test. Because I'm looking at that point for post-infectious IBS or post-infectious SIBO, where motility, and this again is going to all be in lesson seven, so you will have that context. Because then I'm talking about motility vs. just trying to go in and kill something. I'm trying to actually figure out why the overgrowth is happening.

The Cyrex panels are, usually for me, like level two, level three testing. So I'll say this in this context, the Cyrex testing that I'm using more often than not is the Cyrex 3X, which is the gluten sensitivity panel. I find that it is the most helpful and I think the most reliable considering all of the markers. I think you can easily do a celiac panel for Quest and be able to try to get some of [that] information. But to really capture the [people with] non-celiac gluten sensitivity, I like the Cyrex 3 panel. So I will do that if someone is eating gluten because you really need to be eating gluten in order for that test to be reliable. If someone's eating gluten and I want to test before I have them do an elimination diet, I'll add this Cyrex 3x right away. If someone doesn't want to stop gluten or they have stopped it before and they were like, "I stopped for three weeks, [and] it didn't help me. I'm not interested in stopping at all," then I'll add the Cyrex 3X. And I'll ask them, "Would it be helpful if you had a lab test that told you that eating gluten causes an immune response for you?" Most people say yes that if they had a lab test, it would

be helpful with compliance. So that's a lot of times what I will do and explain to them the answer is to remove gluten out of your body. But sometimes having that motivation and that confirmation [is] helpful for them. So that is when I will add a Cyrex 3X early on.

The GI-MAP I still use periodically. I like it. It does have a fecal gluten marker. And sometimes that can be a clue. If you're having some traces of gluten reactivity antibodies within the fecal test, sometimes that can be a reason to then move forward to the Cyrex 3X. The rest of the Cyrex testing, I think, [is] just like a balance and figuring out where that fits. And it depends on the practitioner. I think some people really love food sensitivity testing. I'm not sure I have found it as helpful as I want it to be, to be quite honest. Because I think that there are a lot of practitioners and people that want to do a food sensitivity test, and for it to just be that. For it to just follow the results, like, "Oh, don't eat these 30 foods, and that will solve the problem." And I think, very rarely is that the answer where it's generally, in my opinion and experience, it's not particularly the food's fault vs. the immune system's fault.

So what is happening? Is there leaky gut, intestinal permeability, [is] there hyperactive immune response, [or] this polyreactive immune response? I don't think the answer is to remove 80 to 90 foods if you have this huge panel. I think there's maybe some argument to remove the really high reactive foods if you want to reduce inflammation and give the bowel a break and give the immune system a break. But I think, honestly, food elimination diets are probably cheaper and easier. I know that those also are riddled with issues with food reintroductions, and really trying to track symptoms. It's not perfect. But I would argue that very rarely have I found it to be just a food sensitivity and that's it. Like, "Oh, you're just sensitive to avocado. And we've fixed that problem and everything goes away." I just haven't ever seen that happen. So I think it makes more sense to look at the gut infections, the imbalances, the intestinal permeability, autoimmunity, the immune system status, [and] really look at all these other things that are likely the driver of food sensitivities.

I do food sensitivity testing, but I generally save it probably until I'm a little bit farther down the treatment. But if I've resolved gut infections, balanced the ecosystem of the microbiome, most of that all looks good, I've really balanced the diet as much as I can. We've tried elimination diets with food reintroduction, and it's a little hard to tell, then maybe I will do food sensitivity testing and maybe like the [lipopolysaccharide] (LPS) antibodies and look for zonulin, and then I think at that point, it might make sense to test for zonulin levels and LPS, like with polysaccharide antibodies. And is there more going on with the intestinal permeability that is existing that I thought maybe we took care of because there weren't any markers of inflammation? All of the gut microbiome looked well, digestive enzymes were great, [and] everything on [the] lab looks fairly good from a perspective of stool. There's no SIBO, there's no [*Helicobacter*] *pylori*, but the person is still really having a lot of issues that seem to revolve around food, then, at that point, I think I [would] do some testing with food sensitivities. But I tend to actually use a little bit more of like the LPS and what is it, the PPD (Precision Point Diagnostics) intestinal permeability panel, I think that's what it's called. So I'll use the intestinal

permeability panel, just to see what the ecosystem is of the integrity of the lining. And I think that can be helpful.

There's no perfect way to do it. But you know these tests get expensive, and it's just about trying to find that balance and prioritize how many labs you're having them do and how you're having them layer them. So I think that answered your question, probably more than you [wanted], but yeah, those are the three core, bloodwork, stool test, and a SIBO test are probably where I start just about everyone, and then I go from there and we'll build out. I think those are probably my foundational labs.

All right, I'll see if anyone else has anything else to add or ask in that context. I'm going to give everybody some time. I don't want to end prematurely if anyone has anything else to ask or questions for anyone that's just joining us. There weren't any pre-submitted questions for today that anyone specifically had questions about in the curriculum or case studies. So just kind of opening it up, go for Millie, to [ask] questions. If anyone has any basic questions, [I'd be] happy to answer them. More specific questions about curriculum, how to apply the information, what to do with it all, again, [I'd be] happy to answer any question that I can. If I can't, I will help find the answer for you. I think Millie's asking another question. So we'll give her a second to.

"In customizing Paleo, Chris makes reference to quantities of carbs for men and women." I don't know if there's more to that question. I'm going to just give us a second. "I'm wondering is that the measurement [of] the serving of food or the specific carbohydrate calculation?"

I am not 100 percent sure. I think I have to go back and look at the handout. If I had to guess, it would be [a] specific carbohydrate calculation. Because a lot of the time, when we're looking at, yeah, I mean, that would be my guess that it would be [a] specific carbohydrate amount. So if we're saying, like you said, 75 to 100 grams for women, then we're talking about carbohydrates themselves. A lot of times, when we're talking about low carb, very low carb, keto, we're talking about [the] percentage of your total calorie intake or percentage of your total food intake is carbohydrates.

So it can get really complicated, and I want to be transparent that that stuff really starts to get super complicated for me, too. And I'm so happy that I have nutritionists that will help me navigate that. I also like to use the Cronometer app. I don't know if you are doing that. So let's say you're calculating; you wonder if there's a resource for patients to calculate carbs. Well, I guess it depends on what your goal is. Maybe you're asking, for instance, like [for] a low-carb diet, the general idea is like 20 percent of your calories are from carbohydrates. So if you're going in and you're figuring out, maybe you're trying to maybe also figure out how to give them that number. Like what total intake should be their total calorie intake versus? Maybe that's what you're asking. If there's a way for them to calculate that. I do have that information somewhere, what our nutritionist uses. Let me see if I can find it. But yeah, let me see if I can

find what Lindsay our nutritionist uses because there's the, let me just really quick. I have this somewhere; I just wrote it down.

Okay, so the [National Institutes of Health] (NIH) body weight planner is the resource that our nutritionist has been using to calculate, to estimate calorie intake for patients. So that's the NIH body weight planner. You can calculate what the caloric needs are per day. And depending on what your goal is for that client or for that patient, you can then figure out a percentage of what those calories would be in carbohydrates. Now, I would say that most of the time, in what we're doing most of the time, it's the carbohydrate that tends to determine the rest of the macronutrient ratios for a lot of the diets that we choose. And then the fats and proteins, I think protein, generally, in my experience, unless you're doing something very targeted for protein intake, the protein is what's leftover. Like, if you have a particular goal of carbohydrates and a particular goal of fats, and it's like the proteins are what's leftover. I don't find that most people have trouble getting that protein; usually, the body drives that protein need pretty well. And I generally don't have a lot of problem[s] [with] people not getting enough or getting too much protein. I think the body regulates itself. It's possible that that's different from other people I've seen. So the Cronometer app, which is what we use for our patients, there's a free version.

One caveat is they share their login and password with us, and we just tell them [to] set us a special password, and then we just keep it in our file or in the [electronic health record]. And then the nutritionist, or you can go in and actually adjust the parameters for that person. So, if you're using the NIH body weight planner to calculate caloric need, and then you're figuring out what percentage of carbohydrate and fat that you want out of that caloric intake, then you can set the parameters on that person's Cronometer app. So it's like a cool little hack way without having to write it all out and then like logging their food with a pen and paper. That takes a lot of time. And you might be able to do this with other apps. There's the My Fitness Pal and other things, but I like Cronometer because I think it gives a lot of micronutrient data. Again, it's not perfect, right? Because it's all about subjective inputting data. But it does have calcium intake, some of the things that are really helpful that [is] not really super easy to measure in labs.

So that's what we do for Cronometer. You've got the body weight planner to figure out the calorie intake, and then you can figure out the percentage based [on] that of what carbs and fats that you want in. And again, it depends on the goal, what you're targeting. So 20 percent is generally [a] low-carb diet, 15 percent or less is [a] very-low-carb diet, [and] ketogenic is 10 percent of calories are carbohydrates. So again, this isn't perfect, and I'm not an expert at this, so I want to be transparent. It's not my strong suit with calculating all of those things and having a really firm grasp of; that's why I love our nutritionists. But I also realize we don't all have the capacity to work with a nutritionist. So I hope that's helpful a little bit and [gives] you some resources on how to calculate those things. And, of course, if you have more specific questions, feel free to send me a message through "submit a question to faculty." It'll come to me as an email, and then I can talk to our nutritionist and get more direct advice if there's something more specifically that you need a little bit of help with.

All right, let's see. I know a few more people have filtered into the room. So [I] just want to give everyone an opportunity. If [you] have a question or anything, you can ask it in the Q&A section or you can keep chatting in the chat area. I'll give everyone a little bit of time. I don't want to cut anyone off if they have questions.

All right, well, thank you, Millie, for asking questions. Oh, here we go; let's see. Okay, Millie, while you're typing yours, Stephanie said, "[Do you] recommend [a] brand for high-quality cod liver oil?"

As of right now, I'm using Rosita cod liver oil. Based [on] the testing and information and discussions with the lab, or with the company and the lab testing that they do, I feel pretty confident about the quality of that product. And they do have capsules and liquid, which is nice. It's not cheap, like most, I think, high-quality cod liver oil supplements are. But Rosita is the brand that I like at this point, and have found, I think, the least amount of concern with, in my opinion, and I think that's also [what] Chris [is] using.

Millie asked, "For SIBO testing, what [do you] look for in finding your resource? I'm in Australia and not sure who's providing the best testing. What should I look for or ask?"

This will be updated, I think, for lesson seven. So hopefully, like I said, it will be published next week, all the updates. So I talk about what you want to look for. Right now, the methodology is looking at the QuinTron methodology or the Novel 4-Gas methodology for SIBO. There's a clinician handout that has been updated, also, that talks about the different methodologies and what to look for and our preferred lab companies.

I think first and foremost, I would contact those lab companies. Genova, trio-smart breath test, and NUNM, I guess, would also be an option. I'm not sure if they ship to Australia. I'm not sure what the rules are for international shipping. That's why it's a little tricky with some of the international stuff. But I think step one is I would just contact the companies that we know and we use in the [United States] and see what their limitations are, if any, [with] shipping to and from Australia. I don't know about, I think it's the sample, right? The utility of the sample. Like, how long will it last and how long will the gas stay within the tubing. And probably, a variety of other things that I'm not aware of with international shipping. But that would be the first step, I think, is looking to see what the options are here. And then second would be, of course, looking within Australia to see what kind[s] of tests are available, and then what method they're using to assess their tests. Because really, that's the question, like, if you do have access to something, is it worth the money if there's a possibility that it's not being processed correctly? I think most labs are using, at least most labs in the [United States], are using the correct methodology. Whether they're using the most updated interpretation, interpretive guidelines is another question, which I also address in the lesson seven updates that should be coming out next week or so.

So Millie, I hope that will be helpful for you in that case. And then I'm just trying to think if there's anything else that might be helpful from a SIBO test perspective. I think those are the majority of the lab companies that we're using, and again, like I said, I'll have a handout for you that will give you some more information when it comes to what to look for and how to go that route.

Okay, Stephanie asked, "What cod liver [oil] dosage are you recommending for maintenance, and at that dosage, how much vitamin D and A do you think a person is receiving from that dosage?"

That is a good question. It depends on the product that you're using. I have to look at the cod liver oil; I'll just give you a perspective for the cod liver oil since that is what I'm using mostly. Let me look to see what the liquid is. I'm just trying to think [of] what I normally am. Okay, so, for instance, for the Rosita cod liver oil liquid, I'm usually recommending one teaspoon per day. And that equates to, on the Rosita side, that's about 395 IU of vitamin D and then 3900 IU of vitamin A. So that's roughly, and I'm sure there's some variation because, obviously, it's a natural product. So 3900 IU daily is in one teaspoon of Rosita cod liver oil and 395 IU. So maintenance, I would say, is one teaspoon. And then if I'm trying to go, if I'm doing something for therapeutic reasons, or part of an intervention, then I will go up to two teaspoons a day. But I'll be honest with you; I think if I'm trying to do anything that's therapeutic, like for a reason to get one of those values up, I'm usually not using cod liver oil.

I'm most often using cod liver oil for maintenance or support. So let's say someone has some skin stuff where I think introducing some vitamin A might be helpful, or their vitamin D levels are just barely low, then at that point, I may suggest [trying] the cod liver oil for a couple [of] months and see [if] the skin improve[s] [and if] our vitamin D levels come back up. If I don't see a lot of movement with the cod liver oil, then I might go to a separate vitamin A supplement or a separate vitamin D with [vitamin] K2 supplement. If the vitamin D levels are really low, and someone's having a lot of skin stuff, and I suspect that there'' some vitamin E or vitamin A issues in absorption of fat-soluble vitamins, then I will be honest, I will often bypass the cod liver oil or I will add it in addition to more direct higher-dose supplementing. I hope that's helpful in that context. So I would say that that's probably a general guideline.

What I'm using is about 400 IU [of] vitamin D and about 4000 IU of vitamin A for a maintenance cod liver oil. And Stephanie says, she's been confused with some of the recommendations as cod liver oil dosage that patients should be compliant with based on taste and cost. Yeah, I agree. I wish I had a better answer for you. Because I think, honestly, the cod liver oil fish oil market [is] overwhelming and it's confusing. And you have people talking about rancidity and the taste and smell of this and how much [you should] be doing. I'm here with you. I'm on the same page. It's really confusing and frustrating. So I generally try to use these products, splitting them up between therapeutic and maintenance. Like, what's my goal? What am I trying to target? If I'm trying to target maintenance support, then maybe I don't need really high doses. And is there any reason why my patient can't eat fish? [There are] lots of reasons why

people can't eat fish or don't want to. So if those are the cases where I think they really need a little bit more support, then I'm sticking with Rosita. I like Rosita. People might have different product information.

I think the rancidity testing is pretty good on that. And keeping it in, of course, a dark cabinet or back in the [refrigerator] where the rancidity, the likelihood of that becoming rancid faster is lower. Not having them buy multiple bottles at a time. Buy one at a time, use that up, and then replace [it], instead of buying three or four bottles in bulk. That's probably not the best way to buy cod liver oil or fish oil. And then [with] fish oil, I like the Nordic Naturals ProOmega. And again, I'm not using that on a regular basis. I'm using that for targeted therapies like cholesterol or neurodegenerative disorders or places really where I think people aren't going to be able to get the amount of [docosahexaenoic acid] (DHA) and [eicosapentaenoic acid] (EPA) that I need them to. And at that point, I'm not using it for vitamin D and vitamin A. I'm not using cod liver oil; I'm using a fish oil supplement. And those are high doses for a reason. I think it just depends on why you're using it. And I think that that's probably the biggest question that I would ask is, why am I using it? Why am I putting them on this supplement? What is my goal? Is it just for maintenance, because they don't eat any fish?

And if their vitamin D levels are tanked, and that's the only reason you're doing cod liver oil, then I would just do a vitamin D supplement, to be honest. That's my opinion. If someone is just borderline vitamin D deficient and they're also not really eating a lot of fish or getting that EPA [and] DHA, then maybe I would do cod liver oil if it's something that they can manage. I think they would also benefit from vitamin A and some of the other pieces that come along with cod liver oil. So again, I think it depends on why you're introducing it. That really helps drive my decision-making, but I hope that helps for the dose that I'm generally using for maintenance.

All right, I think we answered most of these [questions]. Let's see if we've got any more before we head out. I don't see any more questions coming up in the chat. If you have one, put it in [quickly]. Let me know. Oops, I missed some. I'm so sorry. Let's see; Stephanie put a couple more things in here. "[The] Supplement Wisely Summary recommends taking cod liver oil to obtain 2000 IU of vitamin D and 6200 IU of vitamin A, and the chart of food sources and high cod liver oil." Okay, so Stephanie, I think, copied and pasted the Supplement Wisely Summary. And I don't disagree. But I think it's really hard, to be honest, to get 2000 IU of vitamin D from cod liver oil. So you might be able to find different sources of cod liver oil that have higher amounts of vitamin D in them, but this might be where, I don't know that Chris and I disagree on this. I think it's just a matter of the reality of actually getting that amount of vitamin D in one source.

Here, it says [a] half teaspoon of that would contain 2000 [IU of]vitamin D ius, but, of course, he hasn't. I have also not found a source that high. So I can see how that can be really confusing. Let me see what I can find for you, Stephanie. Where is this? Stephanie, is this in [the] PTP or is this just in one of Chris's articles that you came across? I'll give you a second to answer me so I can have an idea. Anyway, what Stephanie's saying is Chris has said before, in the past, take

enough cod liver oil to obtain 2000 IU of vitamin D and almost 6200 IU of vitamin A. I think we just said one teaspoon of cod liver oil from Rosita has 400 IU of vitamin D. So that might be a little tricky, just because it's a lot of teaspoons. Gosh, it's probably close to six, right? Give or take. So it's doable. It's possible. I don't know about you, [but] I'm not sure I, oh, it's the bonus chapter from [*The*] *Paleo Cure*. Okay. So I don't know about you, but it might be hard to get someone to take six teaspoons of cod liver oil a day. It's hard enough for me to get them to do one teaspoon, which is why I do the capsules. But the capsules have less in them per dose; also, the more concentrated is the liquid.

So I guess my answer would be that I think this dosing is up to par with what I would also recommend. But I'm generally not using cod liver oil as a way to supplement vitamin D and vitamin A at these levels. So that's just my approach. I don't want to put words in Chris's mouth, but I would also guess it depends on the audience of who's listening to these things. Because this is a book for the mass public. And it's a little harder to give that context and to say, "Go get your numbers tested. And here's also what you might want to do." There [are] so many caveats and nuances to actually being a practitioner and trying to target nutrient imbalances. So what I would say is, I also am not aware of a source that is that high with 2000 [IU of] vitamin D. If someone finds it, please let me know. And even then, the question is, if you find a source, is it a high-quality source? Like rancidity testing and all of those.

I personally would, like I said, probably be using one to two teaspoons a day. One to two teaspoons a day of cod liver oil, if we're just trying to get maintenance. If someone's not consuming any seafood, [and] they're not getting any EPA or DHA, you might [want] to do something different and supplement a little bit higher. But if you're just trying to bump up and support vitamin D nicely, then I think a cod liver oil maintenance dose is fine. Let's say you did two teaspoons, that would be close to 800 IU of vitamin D. It's still not 2000. So I also think that 90 percent of my patients need vitamin D supplementation more than 1000 IU or 2000 IU daily. That's just the reality of where [we are] in the world with vitamin D absorption, what's going on with our environment, sunblock, genetics, you name it; there [are] probably lots of things that are impacting our ability to absorb and utilize vitamin D. So most of my patients are on a vitamin D supplement. And I like cod liver oil, but I also have to say that if I'm having someone choose, financially, between cod liver oil and having to take six or seven teaspoons of it to get the same amount of vitamin D, vitamin A, I honestly probably would have them do a separate vitamin D and a separate vitamin A supplement.

That's just the reality, I think, of where we're stuck sometimes because it's expensive to [take] some of these high-quality products. And if you're trying to get these higher therapeutic doses, you're going to just be running through a bunch of money with cod liver oil. I think it's a great product, and I think it's really helpful and it provides a lot more benefits than just a vitamin D supplement by itself or a vitamin A supplement by itself. These more natural whole products are better, but I also don't think that they are always realistic in every situation. So just giving a taste in how I generally approach that. You're welcome. I hope that's helpful. Again, you have had these general recommendations that come from books and for the masses, and then it's

like you have to dwindle it down and have it make sense from a practitioner standpoint. And you have labs and you have knowledge and you have all [these] other resources and references that the general public [doesn't], so that's what's helpful is to make those connections and be able to tease out where you're going to get the most bang [for] your buck.

And then you said, "If adequate sun exposure is present, should one supplement vitamin A alone for maintenance when liver is not consumed?"

I don't generally recommend that on an ongoing basis for maintenance. Someone may feel differently or may have different experience, but if vitamin D levels, and you say if adequate sun exposure is present. But to be honest, I probably would say more like their vitamin D levels on their labs will go because, again, I think sun exposure, while helpful to know if someone's getting a good amount of exposure doesn't really tell us if you're absorbing, utilizing, metabolizing vitamin D. So I would say, if vitamin D labs are good and adequate, I'm not in a real hurry to supplement with vitamin A, to be honest. I do add it for my patients who have eczema or psoriasis, skin integrity issues, things that are more related to skin problems; I will generally add vitamin A to maintenance, especially if it helps them. I don't just put someone on for eight months. It's like, "Let's try it for a few months and see if you notice any difference."

Chris Masterjohn probably has some pretty good information on this. If you don't already own the nutritional cheat sheet. Is that what it is called? I'm trying to remember, but it has saved my life. Let me just see what it's called so I don't mess you up. I think it's just called the nutritional cheat sheet. "Testing Nutritional Status: The Ultimate Cheat Sheet." I don't think it's super expensive, but I have really liked it and utilized it and for a lot of the nutritional stuff because it's not my strongest suit. And there's also so much information about how to test for each nutrient, and urine is great for this one, and the serum was good for this one. But plasma is great. It's so confusing. So I like the ultimate cheat sheet because it does really break down all of the different nutrients and vitamins and his preferred way of testing and toxicity and deficiency. And so, again, he's not the [be-all and end-all], but I think he's a pretty smart dude. And he has quite a lot of information and knowledge in this category. So he may say differently. I haven't checked on the vitamin A thing in a while, but I don't think so.

So my answer is I don't use maintenance supplementation for vitamin A. Usually, I've got patients on a million other things. So it's a little bit lower on my list. Now, I will say if I noticed that someone has a lot of fat-soluble vitamin deficiencies, or I look at their Cronometer. [If] I look at their Cronometer diet, log, or the nutritionist notices some of those deficiencies, I may consider differently. So I think that if you're looking at someone who's, and this is a little different, because you're saying here vitamin D is good. So maybe that's a little bit different. But I think if you're looking here, where Cronometer [is] showing a really low intake of fat-soluble vitamins based [on] their diet, if vitamin D is super low, if you decide to test vitamin A and vitamin K, and everything's really low, maybe there is [a] reason to supplement with some of the more fat-soluble vitamins for that reason. Absorption intake, whatever it might be. So I think there [are] reasons why, but, again, that is different than maintenance, right? That's a

therapeutic intervention for a deficiency. So I'm probably just answering your question eight times, but the answer is no; I don't use vitamin A for maintenance.

All right, let's see. I think we answered those. "What about a vegan or vegetarian?"

I think you're asking how to get cod liver oil, like how to get those nutrients, maybe, Millie. Well, I think the question will be, are they a pescatarian? If they are, then maybe [the] problem [is] solved and they would be open to [taking] cod liver oil. If they're a vegan, then I would use vitamin D and vitamin A supplementation. I will be honest that I haven't come across this as a big problem, again, because I'm not supplementing. I'm not supplementing with vitamin A on a regular basis. I'm just trying to think of what vitamin A is, like what the source is for some of these products. But either way, if they're vegan or vegetarian and they don't want to consume cod liver oil, then, of course, in that situation, I would just go directly to the supplemental form of those nutrients. And I'm pretty sure you could find sources that are not derived from animals or marine life. Of course, those are probably the easiest ways to get them. But I would just go to a regular supplement at that point, if you need it, if that's supported.

The question is, "What maintenance doses do you choose for vegans or vegetarians?"

I would say that when I say maintenance dose for this kind of stuff, I'm also using labs. I'm using labs to assess this information. So very rarely am I just saying, oh, I've never tested your lab; you should just be on this maintenance dose because that's what I do for everyone. Sometimes that's the case where it's like, yeah, most everyone ends up on this dose. But I would say that I'm not just randomly picking a maintenance dose; I'm usually finding out what their lab levels are. Vitamin D levels, I think, [are] a consideration for vegans and vegetarians, for sure. I think there are a lot of healthy vegans and vegetarians that do it right and get the right micronutrients and macronutrient ratios. But there are a lot of people who don't do it right. Same with anyone who's doing [a] diet, actually.

I do sometimes find in vegans or vegetarians, depending on their diet and how well they have adjusted, that my maintenance doses are a little bit higher if there's food intake issues. If they're not really having some of the nutrient density with some of their food intake. But again, I'm testing labs. I'm deciding what a maintenance dose might be. So, for instance, I have people that are on a maintenance dose of vitamin D that's 5000 IU because that's the dose that they do well at and that's the dose that gets me the levels of vitamin D that I need. That's my maintenance dose for that person. So for vitamin D, in particular, that one's a little bit easier. Because we can measure it, and we can track it from that perspective. And then for vitamin A, Stephanie just said [the] PTP has a handout titled "Paleo for Vegetarians" that gives supplement recommendations from lesson three. Thank you, Stephanie, as a reminder.

So, again, I like to test, and that's generally what I use as my guide for choosing a maintenance dose. Thank you, Stephanie, for reminding me about the "Paleo for Vegetarians" supplement recommendations. So Millie, that might be a good place to start. But I really do like to look at

the Cronometer. What is their food intake looking like? [Are] there a lot of deficiencies in those certain areas? And then at that point, if there [are] deficiencies, it's not maintenance; it's [a] therapeutic dose. So then you're looking for a therapeutic dose that's going to get at least the intake up to par where you'd want to see the percentages up and then the lab results if you're able to test for those numbers, ideally. Maybe you aren't, then using the labs as a way to try. I'm just trying to [use] the lab values as a way to track what dose works. And then often, I will then maybe reduce the dose and retest. Have things improved? [Has] their intestinal permeability improved? Are they absorbing their nutrients better and they don't need as high of a dose? And so I think that that's kind of the dance of finding that maintenance dose and what you need. So I hope that answers your question. It's not a perfect answer.

I'm trying to remember; I don't do a lot of testing. But I do think that serum vitamin A is probably fine and good to test. So I honestly don't test for it a lot. I just don't think so, because usually, their intake is pretty good on their Cronometer app, and I'm not seeing a lot of symptoms of deficiency. And so I really think, [look] at the diet and [see] what intake they might have, and see how you can support vitamin A intake. But I think you could also test serum vitamin A, keeping that in the middle of the reference range, and go from there.

The other question is, "Do you ever use liquid chlorophyll for skin improvements in general? The thought would be to help detoxify the system."

I don't. I see the reasoning behind it, and I see, I think, the thought process behind it. But I don't generally use it for skin on its own. The chlorophyll that I'm usually using is part of a bigger detox protocol. So whether I'm detoxing heavy metals, or I'm detoxing environmental toxins or something else that's going on. I like the idea. I'm into it. I think that it's reasonable. I think the biggest concerning question with upregulating detox and actually detoxing the body is can the body handle that load. And that, I think, is the balance. Because sometimes you go too fast, too quick[ly], and if you are just pulling toxins out but you're not really supporting the detoxification system or figuring out what's blocking that detox system, sometimes that can backfire a little bit, and you can have worsening of symptoms.

So I'm open to it. I think it's a reasonable approach. I just haven't used it regularly for skin. I'm generally using EPA and DHA, of course. I will use biotin, cod liver oil, collagen peptides for skin, Mother Dirt products, sometimes beef tallow, topical. So there's a lot, vitamin A, a lot of different nutrients that I'll use for that angle. But I like the idea, Amanda.

All right, I can't believe it. We did it; we got through a whole hour. Thank you so much for submitting your questions. [They were] very, very helpful. It's great to have these discussions. The recording will be out very soon.

Oh, I think Stephanie had one more question. "At the end of our coursework, are we able to download clinician and patient handouts indefinitely or just for six months? How long

do we have the lessons to review? And after we are done, what support info do we have?"

As of right now, you have six months after you graduate; you have six months' access to everything. So you can still download clinician handouts and patient handouts, and material and have access to the updated material [for] up to six months. So after the six-month mark is when access to that technically stops unless you choose to do the alumni membership. And then [with] the alumni membership, you have access to everything again, for as long as you're a member. And that means everything. All the updates that are coming out, all the handouts, all the new resources, and everything that [is] updated on a regular basis. And then you also have access to case presentation Q&As. So that, as of right now, we do once a month. You can submit case studies and then [I] and sometimes the nutritionist will talk about those and discuss them with you if you're available. If not, we just discuss and go through the questions that you have and talk about the case studies, and then we give the recordings and the transcripts out for everyone to review after the fact.

I think that tends to be the part that people really like and that it's helpful, is the case presentation part and being able to have people to consult with. Then you have the forum, as well, with other graduates that you can ask questions, too. So Stephanie, if you have more questions, you can definitely contact customer service and then they can give you all of the exact details.

All right, everyone, thank you so much. It was great to talk to everyone, and again, the recording will be out shortly. I will see you next month. Bye.